In the Specification:

Please replace the Sequence Listing submitted on March 22, 2001 with the corrected Sequence Listing submitted herewith (pages 1-19).

Replace the paragraph found at page 3, lines 5-6, with the following paragraph:

Fig. 2 shows peptides of the invention of various lengths derived from *Lol p* V (SEQ ID NO: 3-29, 60).

Replace the paragraph found at page 3, line 7, with the following paragraph:

Fig. 3 shows peptides of various lengths derived from Lol p I (SEQ ID NO:30-53, 55, 56, 61, 62).

Replace the paragraph found at page 7, line 25 through page 8, line 6, with the following paragraph:

The present invention also provides nucleic acid sequences encoding peptides of the invention. Nucleic acid sequences used in any embodiment of this invention can be cDNAs encoding corresponding peptide sequences as shown in Fig. 2 (SEQ ID NO:3-29, 60). Such oligodeoxynucleotide sequences can be produced chemically or mechanically, using known techniques. A functional equivalent of an oligonucleotide sequence is one which is 1) a sequence capable of hybridizing to a complementary oligonucleotide to which the sequence (or corresponding sequence portions) of *Lol p* V as shown in Fig. 1 or fragments thereof hybridizes, or 2) the sequence (the corresponding sequence portions complementary to the nucleic acid sequences encoding the peptide sequence derived from *Lol p* V as shown in Fig. 2 and/or 3) a sequence which encodes a product (e.g., a polypeptide or peptide) having the same functional characteristics of the product encoded by the sequence (or corresponding sequence portion) of *Lol p* V as shown in Fig. 1. Whether a functional equivalent must meet one or more criteria will depend on its use (e.g., if it is to be used only as an oligoprobe, it need meet only the first or second criteria and if it is to be used to produce a *Lol p V* peptide of the invention, it need only meet the third criterion). The nucleic acid sequences of the invention also include RNA which can be transcribed from the DNA prepared as described above.

Replace the paragraph found at page 20, lines 20-25, with the following paragraph:

-- Various isolated peptides of the invention derived from ryegrass pollen protein *Lol p* V are shown in Fig. 2 (SEQ ID NO:3-29, 60). Peptides comprising at least two regions, each region comprising at least one T cell epitope of *Lol p* V are also within the scope of the invention. As

used herein a region may include the amino acid sequence of a peptide of the invention as shown in Fig. 2 or the amino acid sequence of a portion of such peptide.

Replace the paragraph found at page 24, line 20 through page 25, line 16, with the following paragraph:

Peptides derived from the *Lol p* V protein allergen which can be used for therapeutic purposes comprise at least one T cell epitope of *Lol p* V and comprise all or a portion of the following peptides: LPIX-1 (SEQ ID NO:3), LPIX-1.1 (SEQ ID NO:59), LPIX-2 (SEQ ID NO:4), LPIX-2.1 (SEQ ID NO:60), LPIX-3 (SEQ ID NO:5), LPIX-4 (SEQ ID NO:6), LPIX-5 (SEQ ID NO:7), LPIX-6 (SEQ ID NO:8), LPIX-7 (SEQ ID NO:9), LPIX-8 (SEQ ID NO:10), LPIX-9 (SEQ ID NO:11), LPIX-10 (SEQ ID NO:12), LPIX-11 (SEQ ID NO:13), LPIX-12 (SEQ ID NO:14), LPIX-13 (SEQ ID NO:15), LPIX-14 (SEQ ID NO:16), LPIX-15 (SEQ ID NO:17), LPIX-16 (SEQ ID NO:18), LPIX-17 (SEQ ID NO:19), LPIX-18 (SEQ ID NO:20), LPIX-19 (SEQ ID NO:21), LPIX-20 (SEQ ID NO:22), LPIX-21 (SEQ ID NO:23), LPIX-22 (SEQ ID NO:24), LPIX-23 (SEQ ID NO:25), LPIX-24 (SEQ ID NO:26), LPIX-26 (SEQ ID NO:28), and LPIX-27 (SEQ ID NO:29) (the sequences of which are shown in Fig. 2) wherein the portion of the peptide preferably has a mean T cell stimulation index (S.I.) equivalent to, or greater than the mean T cell stimulation index of the peptide from which it is derived (e.g. as shown in Fig. 5, the S.I. for LPIX-16 (SEQ ID NO:18) is shown above the bar to be 3.7, therefore any portion of LPIX-16 preferably has a mean S.I. of 3.7). Even more preferably peptides derived from the *Lol p* V protein allergen which can be used for therapeutic purposes comprise all or a portion of the following peptides: LPIX-4 (SEQ ID NO:6), LPIX-5 (SEQ ID NO:7), LPIX-6 (SEQ ID NO:8), LPIX-8 (SEQ ID NO:10), LPIX-9 (SEQ ID NO:11), LPIX-11 (SEQ ID NO:13), LPIX-12 (SEQ ID NO:14), LPIX-16 (SEQ ID NO:18), LPIX-17 (SEQ ID NO:19), LPIX-19 (SEQ ID NO:21), LPIX-20 (SEQ ID NO:22), LPIX-23 (SEQ ID NO:25), and LPIX-26 (SEQ ID NO:28) as shown in Fig. 2. Even more preferably, peptides derived from Lol p V protein allergen which can be used for therapeutic purposes comprise all or a portion of the following peptides: LPIX-1 (SEQ ID NO:3), LPIX-2 (SEQ ID NO:4), LPIX-3 (SEQ ID NO:5), LPIX-4 (SEQ ID NO:6), LPIX-5 (SEQ ID NO:7), LPIX-6 (SEQ ID NO:8), LPIX-7 (SEQ ID NO:9), LPIX-8 (SEQ ID NO:10), LPIX-9 (SEQ ID NO:11), LPIX-10 (SEQ ID NO:12), LPIX-11 (SEQ ID NO:13), LPIX-12 (SEQ ID NO:14), LPIX-13 (SEQ ID NO:15), LPIX-14 (SEQ ID NO:16), LPIX-15 (SEQ ID NO:17), LPIX-16 (SEQ ID NO:18), LPIX-17 (SEQ ID NO:19), LPIX-18 (SEQ ID NO:20), LPIX-19 (SEQ ID NO:21), LPIX-20 (SEQ ID NO:22), LPIX-21 (SEQ ID NO:23), LPIX-22 (SEQ ID NO:24), LPIX-23 (SEQ ID NO:25), LPIX-24 (SEQ ID NO:26), LPIX-26 (SEQ ID NO:28), and LPIX-27 (SEQ ID NO:29).

Replace the paragraph found at page 25, line 17 through page 26, line 4, with the following paragraph:

One embodiment of the present invention features a peptide or portion thereof of *Lol p* I which comprises at least one T cell epitope of the protein allergen and has a formula X_n-Y-Z_m. According to the formula, Y is an amino acid sequence selected from the group consisting of LPIX-1 (SEQ ID NO: 3), LPIX-1.1 (SEQ ID NO:59), LPIX-2 (SEQ ID NO: 4), LPIX-2.1 (SEQ ID NO:60), LPIX-3 (SEQ ID NO: 5), LPIX-4 (SEQ ID NO: 6), LPIX-5 (SEQ ID NO: 7), LPIX-6 (SEQ ID NO: 8), LPIX-7 (SEQ ID NO: 9), LPIX-8 (SEQ ID NO: 10), LPIX-9 (SEQ ID NO: 11), LPIX-10 (SEQ ID NO: 12), LPIX-11 (SEQ ID NO: 13), LPIX-12 (SEQ ID NO: 14), LPIX-13 (SEQ ID NO: 15), LPIX-14 (SEQ ID NO: 16), LPIX-15 (SEQ ID NO: 17), LPIX-16 (SEQ ID NO: 18), LPIX-17 (SEQ ID NO: 19), LPIX-18 (SEQ ID NO: 20), LPIX-19 (SEQ ID NO: 21), LPIX-20 (SEQ ID NO: 22), LPIX-21 (SEQ ID NO: 23), LPIX-22 (SEQ ID NO: 24), LPIX-23 (SEQ ID NO: 25), LPIX-24 (SEQ ID NO: 26), LPIX-26 (SEQ ID NO: 28), and LPIX-27 (SEQ ID NO: 29) (the sequences of which are shown in Fig. 2). In addition, X_n are amino acid residues contiguous to the amino terminus of Y in the amino acid sequence of the protein allergen and Z_m are amino acid residues contiguous to the carboxy terminus of Y in the amino acid sequence of the protein allergen. In the formula, n is 0-30 and m is 0-30. Preferably, the peptide or portion thereof has a mean T cell stimulation index equivalent to greater than the mean T cell stimulation index of Y as shown in Fig. 4. Preferably, amino acids comprising the amino terminus of X and the carboxy terminus of Z are selected from charged amino acids, i.e., arginine (R), lysine (K), histidine (H), glutamic acid (E) or aspartic acid (D); amino acids with reactive side chains, e.g., cysteine (C), asparagine (N) or glutamine (Q); or amino acids with sterically small side chains, e.g., alanine (A) or glycine (G). Preferably n and m are 0-5; most preferably n + m is less than 10.

In the Claims

Please amend claims 1, 29, and 42 as follows:

1. (Amended) An isolated peptide of *Lol p* V wherein said peptide comprises at least one T cell epitope of *Lol p* V, said peptide having at least 7, but no more than 100, amino acid residues comprising an amino acid sequence selected from the group consisting of amino acid sequences as shown in Fig. 2 of peptides LPIX-1 (SEQ ID NO:3), LPIX-1.1 (SEQ ID NO:59), LPIX-2 (SEQ ID NO:4), LPIX-2.1 (SEQ ID NO:60), LPIX-3 (SEQ ID NO:5), LPIX-4 (SEQ ID NO:6) LPIX-5 (SEQ ID NO:7), LPIX-6 (SEQ ID NO:8), LPIX-7 (SEQ ID NO:9), LPIX-8 (SEQ ID NO:10), LPIX-9 (SEQ ID NO:11), LPIX-10 (SEQ ID NO:12), LPIX-11 (SEQ ID NO:13), LPIX-12 (SEQ ID NO:14), LPIX-13 (SEQ ID NO:15), LPIX-14 (SEQ ID NO:16),